

Substitute for form 1449A/PTO		Complete if Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>		<b>Application Number</b> (Nat'l. phase of PCT/JP04/010807) <b>Filing Date</b> (Herewith) <b>First Named Inventor</b> Masahiro YAMASHITA <b>Art Unit</b> (Unassigned) <b>Examiner Name</b> (Unassigned)	
Sheet	1	of	2
		<b>Attorney Docket Number</b> 12477/10	

## U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	1	US-5,834,566	11/10/98	HELMER-METZMANN et al.	
	2	US-5,989,742	11/23/99	CABASSO et al.	
	3	US-2002/0091225A1	07/11/02	MCGRATH et al.	=WO02/25764

## FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
	1	WO 99/10165	03/04/99	FOSTER-MILLER, INC.		
	2	WO 02/25764	03/28/02	VIRGINIA TECH INTELLECTUAL PROPERTIES, INC.		
	3	WO 00/15691	03/23/00	VICTREX MFG. LTD.		
	4	JP 06-093114	04/05/94	HOECHST AG		
	5	JP 2-884189	02/12/99	KONISHI CHEMICAL IND CO, LTD.		
	6	JP 2003-217343	07/31/03	TOYOBICO LTD		
	7	JP 2003-217342	07/31/03	TOYOBICO LTD.		
	8	JP 08-020716 A	01/23/96	HOECHST AG		
	9	JP 2002-524631A	08/06/02	VICTREX MFG. LTD		
	10	JP 2001-514431A1	09/11/01	FOSTER-MILLER, INC.		
	11	JP 2002-502539A1	01/22/02	THE RESEARCH FOUNDATION OF THE STATE UNIV. OF NY		
	12	JP 11-067224A	03/09/99	ASAHI CHEM. IND CO, LTD.		
	13	JP 11-007969A	01/12/99	ASAHI CHEM. IND CO, LTD.		
	14	JP 2004-149779A	05/27/04	TOYOBICO., LTD.		
	15	JP 07-268114A	10/17/95	ASAHI GLASS CO., LTD.		
	16	JP 01-129023A	05/22/89	TOSOH CORP.		

Examiner Signature	/Stephen Yanchuk/	Date Considered	06/01/2009
--------------------	-------------------	-----------------	------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.<sup>1</sup> Applicant's unique citation designation number (optional).<sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).<sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.<sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible.<sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450. #597726

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /S.Y./

Receipt date: 01/27/2006 → 10566218\_GAU: 1795  
PCT/08/08A (08-00)

Please type a plus sign (+) inside this box

Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

Complete if Known

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Application Number	(Nat'l. Phase of PCT/JP04/010807)
Filing Date	(Herewith) 05/06/2005 66218
First Named Inventor	Masahiro YAMASHITA
Group Art Unit	(Unassigned)
Examiner Name	(Unassigned)

Sheet

2

of

2

Attorney Docket Number

12477/10

## OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	1	"Partially sulfonated poly(arylene ether sulfone) – A versatile proton conducting membrane material for modern energy conversion technologies", R. Nolte et al., Journal of Membrane Science, 83, 1993, pp. 211-220	
	2	"Proton conducting composite membranes from polyether ether ketone and heteropolyacids for fuel cell applications", S.M.J> Zaidi et al., Journal of Membrane Science, 173, 2000, pp. 17-34	
	3	"Proton-conducting polymers derived from poly(ether-etherketone) and poly(4-phenoxybenzoyl-1, 4-phenylene)", Takeshi Kobayashi et al., Solid State Ionics 106, 1998, pp. 219-225	
	4	"Polyaromatic Ether-Ketone Sulfonamides Prepared from Polydiphenyl Ether-Ketones by Chlorosulfonation and Treatment with Secondary Amines", Jasun Lee et al., Journal of Polymer Science: Polymer Chemistry Edition, Vol. 22, 1984, pp. 295-301	
	5	"Synthesis and Characterization of Sulfonated Poly(arylene Ether Sulfones)", B.C. Johnson et al., Journal of Polymer Science: Polymer Chemistry Edition, Vol. 22, 1984, pp. 721-737	
	6	"Polyaromatic Ether-Ketones and Ether-Keto-Sulfones Having Various Hydrophilic Groups", Takeshi Ogawa et al., Journal of Polymer Science: Polymer Chemistry Edition, Vol. 23, 1985, pp. 1231-1241	
	7	"Direct Methanol Fuel Cell Performance Using Sulfonated Poly(arylene ether sulfone) Random Copolymers as Electrolytes", B.S. Pivovar et al., AIChE, Fuel Cell Technology: Opportunities and challenges, 2002, pp. 535-542	
	8	"Chemical Structure and Morphological considerations for Designing Direct Methanol Fuel Cell Proton Exchange membranes", M. Hickner and J.E. McGrath, The Electrochemical Society 203 <sup>rd</sup> Meeting Paris, 2003, Abs., Abstract No. 1169	
	9	"Synthesis and Characterization of Controlled Molecular Weight Sulfonated Aminofunctional Poly(Arylene Ether Sulfone)s prepared by Direct Polymerization", J. Mecham et al., Polymer Preprints 2000, 41(2), pp. 1388-1389	

Examiner Signature

/Stephen Yanchuk/

Date Considered

06/01/2009

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.<sup>1</sup> Unique citation designation number.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /S.Y./